

REMARKS

In the Office Action, claims 1-93 were rejected. By this Response, claims 1, 9, 15, 18, 19, 22, 30, 36, 39, 40, 46, 54, 60, 63, 64, 70, 78 and 86 have been amended. Upon entry of the amendments, claims 1-93 will be pending in the present patent application. Reconsideration and allowance of all pending claims is requested.

Rejections Under 35 U.S.C. § 103

Claims 1, 9, 15, 18, 19, 22, 30, 36, 39, 40, 46, 54, 60, 63, 64, 70, 78 and 86 and dependent claims 2, 4-6, 8, 10, 12, 13, 16, 20, 23, 25-27, 29, 31, 33, 34, 37, 42, 44, 45, 47, 49-51, 53, 55, 57, 58, 61, 66, 68, 69, 71, 73-75, 77, 79, 81-83, 85, 87, 89-91 and 93 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,223,143 (hereinafter "Weinstock") in view of U.S. Patent No. 6,067,486 (hereinafter "Aragones"). For a *prima facie* case of obviousness, the Examiner must set forth the differences in the claim over the applied reference, set forth the proposed modifications of the reference which would be necessary to arrive at the claimed subject matter, and explain why the proposed modification would be obvious.

Applicants respectfully submit that Weinstock and Aragones, either alone or in combination, do not teach, disclose or suggest all the features recited in independent claims 1, 9, 15, 18, 19, 22, 30, 36, 39, 40, 46, 54, 60, 63, 64, 70, 78 and 86. Specifically neither reference teaches, discloses or suggests building an engine baseline model *for an ideal engine* from preprocessed data. Accordingly, the combination of the references cannot possibly include these features of the claims, and thus cannot render the claims obvious.

Claims 1, 9, 15, 18, 19, 22, 30, 36, 39, 40, 46, 54, 60, 63, 64, 70, 78 and 86 and claims depending therefrom

Weinstock discloses a quantitative risk assessment system (QRAS) that builds a risk model of a system for which risk of failure is being assessed, and analyzes the risk of

the system corresponding to the risk model. More specifically, in Weinstock, a baseline is created based upon simulations run at the lowest level (i.e., the failure model level). The simulations are saved and stored as the baseline (col. 16, lines 57-59). The baseline avoids the need for continually generating scenario simulations, thus avoiding re-constructing and re-simulating all scenarios for each analysis run (col. 24, lines 29-32). The analysis runs then access this baseline for risk quantitative computation as well as for ranking of particular risks.

However, the baseline disclosed by Weinstock is not equivalent or even similar to *building an engine baseline model for an ideal engine*. The engine baseline modeling system disclosed in the present patent application models the performance of an “ideal” engine. The engine baseline model built using the engine baseline modeling system monitors engine status, predicts future engine behavior, diagnoses faults, determines when an engine performs out of specification, determines the quality of the engine and designs new systems for an engine. See, e.g., Application, page 5, line 29 - page 6, line 6.

There is no disclosure, teaching or even a suggestion in Weinstock to a system or a method for *building an engine baseline model for an ideal engine*. Further, Weinstock does not disclose, teach or even suggest that the simulations stored as the baseline may be used to model ideal engine performance. One skilled in the art would therefore conclude that Weinstock appears *only* to teach performing a set of simulations to simulate the performance of an actual engine, rather than an ideal engine.

Aragones similarly fails to teach this recited feature, and indeed, the Examiner did not rely upon Aragones for teaching of an engine baseline model. Consequently, no combination of the references could render such inventive features obvious. In view of the above-noted distinctions, Applicants submit that claims 1, 9, 15, 18, 19, 22, 30, 36, 39, 40, 46, 54, 60, 63, 64, 70, 78 and 86 are neither the same as, nor in any way taught or suggested by Weinstock or Aragones taken either singly or in combination.

In view of the foregoing deficiencies in the teachings of the prior art, the references cannot establish a *prima facie* case of obviousness of claims 1, 9, 15, 18, 19, 22, 30, 36, 39, 40, 46, 54, 60, 63, 64, 70, 78 and 86. Accordingly, these claims are believed to be clearly patentable over the cited combination. Their reconsideration and allowance is respectfully requested.

Dependent claims 2, 4-6, 8, 10, 12, 13, 16, 20, 23, 25-27, 29, 31, 33, 34, 37, 42, 44, 45, 47, 49-51, 53, 55, 57, 58, 61, 66, 68, 69, 71, 73-75, 77, 79, 81-83, 85, 87, 89-91 and 93 depend from presumably allowable independent claims 1, 9, 15, 18, 19, 22, 30, 36, 39, 40, 46, 54, 60, 63, 64, 70, 78 and 86. Accordingly, these claims are believed to be clearly patentable over the cited combination. Their reconsideration and allowance are requested.

Claims 3, 7, 11, 14, 17, 21, 24, 28, 32, 35, 38, 41, 43, 48, 52, 56, 59, 62, 65, 67, 72, 76, 80, 84, 88 and 92 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Weinstock in view of Aragones and further in view of U.S. Patent No. 6,243,696 (hereinafter "Keeler"). As summarized above, all of the independent claims are patentable over the combination of Weinstock in view of Aragones. The Keeler reference has been reviewed with respect to the 35 U.S.C. § 103(a) rejection and fails to obviate the deficiencies of Weinstock in view of Aragones in regards to building an engine baseline model to model the performance of an ideal engine. Accordingly claims 3, 7, 11, 14, 17, 21, 24, 28, 32, 35, 38, 41, 43, 48, 52, 56, 59, 62, 65, 67, 72, 76, 80, 84, 88 and 92 are allowable by virtue of their dependency from allowable base claims 1, 9, 15, 18, 19, 22, 30, 36, 39, 40, 46, 54, 60, 63, 64, 70, 78 and 86. These claims are believed to be clearly patentable over the cited combination. Their reconsideration and allowance are requested.

Conclusion

In view of the remarks and amendments set forth above, Applicants respectfully request allowance of the pending claims. If the Examiner believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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